

INCIDENCE OF GONOCOCCAL INFECTION AND ITS CLINICOPATHOLOGICAL CORRELATION IN PATIENTS ATTENDING GYNAECOLOGICAL OUT PATIENT DEPARTMENT

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SUMMARY

The presence of gonococcal infection was sought in 271 women attending gynaecologic OPD of Nehru Hospital, Postgraduate Institute of Medical Education and Research, Chandigarh. The overall incidence was observed to be 1.84%. All subjects belonged to age group 21-30 years and the commonest presenting symptom was discharge per vaginam. None of the culture positive cases showed any specific sign on clinical examination. Present study showed an incidence of gonococcal infection to be 1.36% in CuT 200 users.

Both in developed and in developing countries, *N. gonorrhoeae* accounts for a high incidence of pelvic infection. At present it is the second most prevalent reportable infection in the United States (Monif, 1988). With use of contraceptive devices the chance of gonococcal endometritis and salpingitis is four times more common than non-IUCD users (Eschenbach et al 1981). The incidence of gonococcal infection has been reported to be 4-5% in various studies from India (Reddy et al, 1985; Jeyasingh et al 1985). Most of the data available on this aspect were collected from STD clinics. Only very few studies deal with prevalence of gonococcal infec-

tion in gynaecologic population. The present study was carried out to find the incidence of gonococcal infection in patients attending the gynaecological OPD of Nehru Hospital, PGIMER, Chandigarh.

Material and methods

Women in the age group 17-35 years attending the gynaecological and family welfare clinics comprised the study population. Two hundred and seventy one cases were drawn from these clinics taking every fifth cases coming from the defined catchment area of Chandigarh. They were all willing to return at prescribed intervals for follow up. One hundred and forty two cases were registered from general gynaecologic clinic, 56 cases from infertility clinic and 73 cases were from family welfare clinic (asymptomatic CuT 200 users).

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A detailed history with special reference to dysuria, vaginal discharge, pelvic pain, menstrual irregularity and infertility was taken. General physical and local examination of the genitalia (without use of any antiseptic lubricant) was performed. Women having genital prolapse, malignancy of the genital tract, fibroid uterus or having any history of antimicrobial drug intake within 2 weeks of examination were excluded from the study.

Plain endocervical swabs collected in sterile test tubes were transported in an ice box to the laboratory within one hour of collection and were inoculated on chocolate agar media and kept in humidified 5% CO₂ incubator for 24-48 hours. For the identification of *N. gonorrhoeae* the following tests as described by Dannielsson et al and Sobezab et al (Dannielson et al 1973; Dannielson et al 1978, Sobezak et al 1984) were carried out.

- i) Colonial morphology, gram negative diplococci.
- ii) Positive oxidase test.
- iii) Glucose fermentation test.
- iv) Positive superoxol test: a drop of 20% H₂O₂ added to the colony producing abundant bubble immediately.

Results

Of the 271 cases recruited in the study, 5 showed positive culture of gonococcus making an overall incidence of 1.84%. Of these 5 positive cases three had attended the general gynaecological OPD with various complaints (n = 142), one suffered from infertility (n = 56), one case belonged to family welfare clinic (n = 73), making the percentages 2.02, 1.36 and 1.78 respectively (Table I). All cases belonged to the age group 21-30 years which

TABLE - I
DISTRIBUTION OF POSITIVE CASES ACCORDING TO THEIR SOURCE OF COLLECTION

Source of collection	Total No. of subjects	Gonococcus culture positive	
		Number	Percentage
Infertility Clinic	56	1	1.79
Family Welfare Clinic (Cu T users)	73	1	1.37
General Gynaecologic OPD	142	3	2.02
Total	271	5	1.84

TABLE - II
DISTRIBUTION OF SUBJECTS ACCORDING TO AGE GROUP

Age group (in years)	Total No. of subjects	Gonococcus positive	
		Number	Percentage
17-20	23	-	-
21-25	103	2	1.94
26-30	96	3	3.12
31-35	49	-	-
Total	271	5	1.84

is the most sexually active age group in our country (Table II). As regards the presenting symptoms it was seen that 3 of 5 patients with positive culture complained of excessive discharge per vaginam, and one patient had primary infertility (Table III). None of the 5 culture positive subjects showed any clinical evidence of infection such as vaginitis, cervicitis, urethritis, Bartholinitis, cervical erosion, tubo-ovarian mass, forniceal thickening or tenderness on clinical examination.

part of the normal flora of vagina and endocervix. In Madras, the incidence of gonococcus was found to be 4.5% in women attending STD clinics (Jeyasingh et al 1985). Bentsi et al (1985) observed an incidence of 3.1% in gynaecologic population.

In our study, the incidence of gonococcus was found to be 2.02% in cases attending the general gynaecologic OPD, whereas 1.36% in women who used Cu T for a variable duration of 1-3 years. Intro-

TABLE - III
DISTRIBUTION OF SUBJECTS ACCORDING TO THEIR PRESENTING COMPLAINTS

Presenting complaints	Total No. of subjects	Gonococcus culture positive	
		Number	Percentage
Infertility	56	1	1.78
Cu T users (otherwise asymptomatic)	73	1	1.36
Leucorrhoea	99	3	3.16
Low backache	16	-	-
Pruritus	2	-	-
Menstrual irregularities	4	-	-
Habitual abortion	3	-	-
No definite complaint	18	-	-
Total	271	5	1.84

Comments

Most of the data available for determination of incidence of gonococcal infection are from population studied from the sexually transmitted disease (STD) clinics. Since 1970's the incidence of gonococcal infection is on the rise in USA especially in the urban population residing in big cities (Donegan 1985). Eschenbach et al (1975) on the basis of recovery of organisms from endocervical culture has implicated gonococcus as the cause of salpingitis in 20-80% of cases. Being a potentially dangerous organism, gonococcus has been extensively studied in different aspects. These gram negative diplococci are not a

duction of CuT or any IUCD has been implicated with increase in gonococcal infection (Eschenbach et al 1981), but the present study failed to identify such association.

Donegan (1985) found that 40% of women infected with gonococci were asymptomatic and so they do not seek health care. In the present study 99 patients were found to present with leucorrhoea which is a common nonspecific complaint of a woman in her reproductive years. The commonest finding was vaginitis which is yet another nonspecific finding. One out of 5 patients with positive culture suffered from infertility, where

the male factors were within normal limits. The patient herself showed no abnormality hysterosalpingography and the endometrial biopsy showed secretory endometrium.

Since most patients with positive gonococcus culture are either asymptomatic or have non-specific vaginal discharge, they are not aware of this dreadful disease in them. This promotes sexual transmission. Furthermore, since most patients have non-specific symptoms, any screening strategy designed to detect cases of gonorrhoea to be reasonably effective must take into consideration all these subclinical cases.

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References

1. Donegan, E.A.: Ed. Ian Phillips, Edward Errol Publishers, 1985.
2. Bentsi, S., Klufio, C.A. Perene, P.L., Bell, T.A., Cles, L.D. Koester, C.M.: *San Pin Wang Genito Unn Med.* 61:48, 1985.
3. Dannelsson, D. Johannison, Q.: *Acta Dermat. Venerologica* 53:75, 1973.
4. Dannelsson, D. Sandstrom, E., Kjiellander, J., Moi, H., Wallkark, G.: *Acta Dermat. Venerologica* 58:69, 1978.
5. Eschenbach, D.A., Holmes, K.M.: *Clin Obstet. Gynec.* 18:35, 1975.
6. Eschenbach, D.A., Holmes, K.K.: *Sex Transm Dis.* 8:156, 1981.
7. Jeyasingh, A., Ramanuiah, T.B.B.S.V., Fernandes, S.D.: *India Genifourin Med.* 61:339, 1985.
8. Monif, G.R.G.: *Second edition* 1988.
9. Reddy, B.S.N., Jatley, V.: *Indian J. Sex Transm Dis.* 6:37, 1985.
10. Sobezak, H., Degner-Harmer, I., Kta, H.: *Med. Microbiol.* 18:271, 1984.